National Institute of Environmental Health Sciences

Assessment and prevention of acute health effects of weather conditions in Europe, the PHEWE project: Background, objectives, design

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Abstract:

Background: The project "Assessment and prevention of acute health effects of weather conditions in Europe" (PHEWE) had the aim of assessing the association between weather conditions and acute health effects, during both warm and cold seasons in 16 European cities with widely differing climatic conditions and to provide information for public health policies. Methods: The PHEWE project was a three-year pan-European collaboration between epidemiologists, meteorologists and experts in public health. Meteorological, air pollution and mortality data from 16 cities and hospital admission data from 12 cities were available from 1990 to 2000. The short-term effect on mortality/morbidity was evaluated through city-specific and pooled time series analysis. The interaction between weather and air pollutants was evaluated and health impact assessments were performed to quantify the effect on the different populations. A heat/health watch warning system to predict oppressive weather conditions and alert the population was developed in a subgroup of cities and information on existing prevention policies and of adaptive strategies was gathered. Results: Main results were presented in a symposium at the conference of the International Society of Environmental Epidemiology in Paris on September 6th 2006 and will be published as scientific articles. The present article introduces the project and includes a description of the database and the framework of the applied methodology. Conclusion: The PHEWE project offers the opportunity to investigate the relationship between temperature and mortality in 16 European cities, representing a wide range of climatic, socio-demographic and cultural characteristics; the use of a standardized methodology allows for direct comparison between cities.

Resource Description

Early Warning System: ☑

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure : ☑

weather or climate related pathway by which climate change affects health

Air Pollution, Meteorological Factors, Meteorological Factors, Precipitation, Solar Radiation,

Temperature, Other Exposure

Air Pollution: Interaction with Temperature, Ozone, Particulate Matter, Other Air Pollution

Air Pollution (other): SO2; NO2; CO;

Temperature: Extreme Heat, Fluctuations

Other Exposure: cloud cover

Geographic Feature: ☒

resource focuses on specific type of geography

Urban

Geographic Location: ☒

resource focuses on specific location

Non-United States

Non-United States: Europe

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Morbidity/Mortality

Intervention: ☒

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation: ☒

mitigation or adaptation strategy is a focus of resource

Adaptation

Resource Type: ☒

format or standard characteristic of resource

Research Article, Review

Timescale: ☒

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content